

## CLAIM LISTING

1. (Currently amended) A broadband cable modem termination system for managing data transmissions through a broadband network that interconnects a plurality of end user locations and a head-end via a cable modem which has an upstream component for multi-point end user to single point head-end upstream signaling and a downstream component for single point head-end to multi-point end user downstream signaling, said broadband network comprising a hierarchical network having at least two levels, said broadband cable modem termination system comprising:

downstream data transmission broadband cable modem component means, located at a first level of said hierarchical network, for transmitting data in a downstream direction from a source of program material at said head-end to selected ones of said plurality of end user locations; and

upstream data transmission broadband cable modem component means, located at a second level of said hierarchical network, for transmitting control data received from at least one of said plurality of end user locations in an upstream direction to said head-end, wherein said second level is located downstream of said first level in said hierarchical network.

2. (Currently amended) The broadband cable modem termination system of claim 1 wherein said downstream data transmission broadband cable modem component means comprises:

means for converting data received in digital baseband IP format to data in a radio frequency based format for transmission to selected ones of said plurality of end user locations.

3. (Currently amended) The broadband cable modem termination system of claim 2 wherein said upstream data transmission broadband cable modem component means comprises:

means for converting data received in a radio frequency based format to data in digital baseband IP format for transmission to said head-end.

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4. (Currently amended) The broadband cable modem termination system of claim 1 wherein said downstream ~~data transmission~~ broadband cable modem component means and said upstream ~~data transmission~~ broadband cable modem component means operate independent of each other.

5. (Currently amended) The broadband cable modem termination system of claim 1 wherein said upstream ~~data transmission~~ broadband cable modem component means comprises:

means for converting data received in a radio frequency based format to data in digital baseband IP format for transmission to said head-end.

6. (Currently amended) A method of operating a broadband cable modem termination system for managing data transmissions through a broadband network that interconnects a plurality of end user locations and a head-end via a cable modem which has an upstream component for multi-point end user to single point head-end upstream signaling and a downstream component for single point head-end to multi-point end user downstream signaling, said broadband network comprising a hierarchical network having at least two levels, said method of operating a broadband cable modem termination system comprising the steps of:

transmitting data from a downstream ~~data transmission~~ broadband cable modem component apparatus, located at a first level of said hierarchical network, in a downstream direction from a source of program material at said head-end to selected ones of said plurality of end user locations; and

transmitting control data from an upstream ~~data transmission~~ broadband cable modem component apparatus, located at a second level of said hierarchical network, and received from at least one of said plurality of end user locations in an upstream direction to said head-end, wherein said second level is located downstream of said first level in said hierarchical network.

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7. (Currently amended) The method of operating a broadband cable modem termination system of claim 6 wherein said step of transmitting data from a downstream data transmission broadband cable modem component apparatus comprises: converting data received in digital baseband IP format to data in a radio frequency based format for transmission to selected ones of said plurality of end user locations.

8. (Currently amended) The method of operating a broadband cable modem termination system of claim 7 wherein said step of transmitting control data from an upstream data transmission broadband cable modem component apparatus comprises: converting data received in a radio frequency based format to data in digital baseband IP format for transmission to said head-end.

9. (Currently amended) The method of operating a broadband cable modem termination system of claim 6 wherein said step of transmitting data from a downstream data transmission broadband cable modem component apparatus and said step of transmitting control data from an upstream data transmission broadband cable modem component apparatus operate independent of each other.

10. (Currently amended) The method of operating a broadband cable modem termination system of claim 6 wherein said step of transmitting control data from an upstream data transmission broadband cable modem component apparatus comprises: converting data received in a radio frequency based format to data in digital baseband IP format for transmission to said head-end.

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